Trinidad Lake Asphalt (TLA) Two Experimental Applications On I-80 from Echo to Castle Rock

Interim Report

Experimental Feature X(02)18 – New Products

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Project Location

There are three different locations for this project. The first is a control section on I-80 from Coalville to Echo (approximately 4 miles). This asphalt section is a standard 8" PG 64-32 HMA. This is a typical pavement section that UDOT designs for this application.

The second section is on I-80 from Echo to Emory (approximately 8 miles). The design of this section is 3" TLA over 3" Zero-Void asphalt. The Zero-Void asphalt is designed to add fatigue resistance to the TLA (which enhances durability properties).

The third section is on I-80 from Emory to Castle Rock (approximately 8 miles). The design of this section is different depending on the lane (two lanes each direction). The left most lane is constructed with 5" of standard HMA and the right most lane is constructed with 5" of TLA.

Scope

The scope of these test sections is to give quantifiable results of the performance of different TLA applications. The results need not be statistically significant since resources are limited on this project. Every effort was made to provide results that are professionally respectable.

Evaluation Method

Both laboratory and field tests are necessary on this project. The laboratory tests for the asphalt pavement are:

Asphalt Pavement Analyzer (APA) Rut Test
APA Fatigue Test
Hamburg Wheel Tracker
Corelok (Bulk Specific Gravity)
Resilient modulus

Each of these tests will be performed on each of the different pavement sections present in this project. The schedule of collection will vary depending on the workload of the Materials division. The target is to do each of these tests at least once every year.

The field tests to be performed are:

FWD

PCI Calculation

Skid Resistance

Each of these tests will be performed on each of the three sections at each milepost. The schedule of the FWD and Skid Resistance tests will vary depending upon the workload of the Pavement Management division. The target is to complete each of these tests at least once per year. PCI will be collected at least once a year.

Preliminary Results

March 18, 2005 eight 12” cores were obtained from the three sections of I-80 and were delivered to the Central Materials laboratory for preparing and running the Hamburg Wheel Tracker to test for durability and stripping. The results will be reported when the test results are available.
June 20, 2005 a visual inspection of the test site was performed by Research Division, Michelle Page and Barry Sharp. The asphalt pavement in all test sections appeared to be in good condition; in regards to the potential for rutting and the longitudinal joint that has failed; it has been treated with our asphalt crack sealer and this has virtually stopped any further fatigue in this regard. Pictures were taken at the core sites and reveal very little, if any, real failure of the pavement. The only condition that was noted was the chip seal that remains has been pounded into the HMA and has smoothed considerable. This condition is further reinforced by 2004 skid tests that tend to show a need to address the shiny surface appearance.

The FWD readings are forthcoming and will be reported when received.

Conclusions/Recommendations

Until such time as all data has been compiled and evaluated this product remains experimental and all users should involve Central Materials.